

E72-10104
CR-128153

Type I Progress Report

ERTS-I

- a. A test and evaluation of ERTS-A data applications to a present-status inventory of the post-1890 A.D. episode of accelerated erosion, and to monitoring future erosional changes, with specific reference to the Arizona Regional Ecological Test Site.

ERTS-A Proposal No. SR 182.

- b. GSFC ID No. of P.I.: IN 050.
- c. No significant results can be reported on this project, because no ERTS-I imagery has been received.
- d. In lieu of ERTS imagery, preliminary planning of photo-interpretive and field-study procedures was undertaken. This was accomplished by two one-day conferences between the P.I. and his principal assistant, Maurice Cooley, while Cooley was in Denver (on two separate trips) for other USGS business. Morrison and Cooley studied several stereo-pairs of Kodak Aeroneg positive color transparencies (1:120,000 scale, taken with the NASA RB-57F aircraft) that are representative of key parts of the project area in order to determine the minimum dimensions of arroyos and gullies, sand dunes, and areas of sheet erosion that can be differentiated on this photography. As explained in the project proposal, the post-1890 erosion features will be mapped using RB-57 airphotos of selected study areas to provide standards for comparison of the degrees of differentiation which can be made with ERTS-I imagery. Twelve flight lines of U-2 multispectral photography in southern Arizona were also indexed and preliminary evaluation made.

As soon as ERTS-I imagery is received, we will make: 1) a preliminary inspection of ERTS images under magnification, and for selected frames, will use an additive color viewer (I²S Miniaddcol); 2) commence detailed study and mapping of the post-1890 erosion features using 1:500,000- or 1:250,000-scale enlargements (B&W, color-composite, and/or color-IR-composite) of selected frames and spectral bands; and 3) compare the information interpreted from the ERTS imagery and plotted on the above maps with that obtainable from available RB-57 and U-2 photography.

- e. through k. Not applicable.

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ERTS-A DATA APPLICATIONS TO A PRESENT
STATUS INVENTORY OF THE POST-1890 AD
EPISODE OF R.B. Morrison (Geological
Survey) 1 Sep. 1972 2 p

N72-32357

Unclas

CSC 08M G3/13 00104

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TO MONITORING FUTURE EROSIONAL CHANGES, WITH SPECIFIC REFERENCE TO
THE ARIZONA REGIONAL ECOLOGICAL TEST SITE —

SR 182

Dr. Roger B. Morrison
U.S. Geological Survey
Denver, Colorado 80225

1 September 1972

Type I Progress Report for Period 1 July 1972 - 31 August 1972

Prepared for:

Goddard Space Flight Center
Greenbelt, Maryland 20771

—/ Publication authorized by the Director, U.S. Geological Survey